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Maine Agricultural Experiment Station

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FOOD INSPECTION.

This bulletin contains the text of the pure food law enacted in 1905, and the standards of purity adopted for Maine.

Requests for bulletins should be addressed to the
AGRICULTURAL EXPERIMENT STATION,
Orono, Maine.

MAINE

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ORONO, MAINE.

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FOOD INSPECTION.

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The legislature of 1905 enacted a law to regulate the sale and analysis of food. This is, however, by no means the pioneer attempt in food legislation. Several years ago Massachusetts, Connecticut, New York, Pennsylvania, North Carolina and other eastern states enacted laws looking to the prevention of adulteration of foods. Naturally many mistakes were made and these from time to time were corrected by special acts. Profiting by the experience of these eastern states, some states in the middle west, notably Ohio, Wisconsin, Kentucky and North Dakota, have since enacted laws which are simpler and yet more far reaching in their effects.

In the last few years there has been a large amount of agitation looking toward national legislation to regulate the interstate commerce as regards the purity of food. This discussion has crystalized into a bill, which has been before several Congresses, known as the Hepburn bill, because of its introduction by Senator Hepburn. Several moneyed trade interests have thus far prevented the passage of this national bill.

Profiting by all this experience, the agricultural committee of the Maine legislature of 1905 discussed this matter, and formulated a bill, which was introduced and after the customary hearing was reported unanimously and enacted. The text of the law follows.

CHAPTER 68 OF THE LAWS OF 1905.

An Act to Regulate the Sale and Analysis of Food.

SEC. 1. It shall be unlawful for any person, persons or corporation within this state to manufacture for sale, to sell, or to offer or expose for sale any article of food which is adulterated or misbranded within the meaning of this act.

SEC. 2. The term food, as used in this act, shall include every article used for food or drink by man, horses or cattle.

SEC. 3. For the purpose of this act an article of food shall be considered as adulterated or misbranded:

First. If any substance or substances be mixed or packed with it so as to reduce or lower or injuriously affect its quality or strength.

Second. If any inferior substance or substances be substituted wholly or in part for this article.

Third. If any necessary or valuable constituent of the article be wholly or in part abstracted.

Fourth. If it be in imitation of, or sold under the name of another article.

Fifth. If it be colored, coated, polished or powdered whereby damage is concealed, or if it be made to appear better or of greater value than it is.

Sixth. If it contains poisonous ingredients, or if it contains any antiseptic or preservative not evident or not known to the purchaser.

Seventh. If it consists wholly or in part of a diseased, filthy, decomposed or putrid animal or vegetable substance.

Eighth. If the package or label shall have any statement purporting to name any ingredient or substance as not being contained in the article, which statement shall be untrue in any particular.

Ninth. If the package or label shall bear any statement purporting to name the substance or substances of which the article is made, which statement shall not fully give the names of all substances contained therein.

Tenth. If it be labeled or branded so as to deceive or mislead the purchaser in any particular.

Provided, that any article of food which is adulterated within the meaning of this act, but which does not contain any poisonous or deleterious ingredient, may be manufactured or sold if the same shall be plainly labeled, branded or tagged so as to show the exact character thereof. Provided further, that nothing in this act shall be construed as requiring proprietors, manufacturers or sellers of proprietary foods which contain no unwholesome substances to disclose their trade formulas, except

that in the case of baking powders each can or package shall be plainly labeled so as to show the acid salt or salts contained therein.

SEC. 4. The director of the Maine Agricultural Experiment Station shall analyze, or cause to be analyzed, samples of articles of food on sale in Maine, suspected of being adulterated, and at such times and to such extent as said director may determine. And said director, in person or by deputy, shall have free access at all reasonable hours to any place wherein articles of food are offered for sale, and upon tendering the market price of any such article may take from any person, persons or corporations samples for analysis.

SEC. 5. The results of all analyses of articles of food made by said director shall be published by him in the bulletins or reports of the Experiment Station, together with the names of the persons from whom the samples were obtained, and the names of the manufacturers thereof. The said director may also adopt or fix standards of purity, quality or strength when such standards are not specified or fixed by law and shall publish them, together with such other information concerning articles of food as may be of public benefit.

SEC. 6. Whoever adulterates or misbrands any article of food as defined in this act, or whoever sells, offers or exposes for sale any adulterated or misbranded article of food, shall be punished by a fine not exceeding one hundred dollars for the first offense and not exceeding two hundred dollars for each subsequent offense.

SEC. 7. Whenever said director becomes cognizant of the violation of any of the provisions of this act, he shall report such violation to the commissioner of agriculture, and said commissioner shall prosecute the party or parties thus reported.

SEC. 8. No action shall be maintained in any court in this state on account of any sale or other contract made in violation of this act.

SEC. 9. Sections ten, eleven, twelve, thirteen, fourteen, fifteen, sixteen and seventeen of chapter one hundred and twenty-nine of the revised statutes and all acts or parts of acts inconsistent herewith, are hereby repealed.

SEC. 10. This act shall take effect when approved.

Approved March 15, 1905.

FOOD STANDARDS.

It is from the nature of the case impracticable for a legislature to establish food standards. This is a matter that calls for careful research on the part of experts. It has, therefore, become customary, both in state and national legislation, to place the responsibility of the establishment of standards upon the executive officer. Section 5 of the above cited law empowers the Director of the Maine Agricultural Experiment Station "to adopt or fix standards of purity, quality or strength when such standards are not specified or fixed by law and shall publish them, together with such other information concerning articles of food as may be of public benefit."

The Association of Official Agricultural Chemists of the United States has for some years been preparing definitions and schedules for such standards. The demand for these standards became so urgent as to lead Congress by an act approved June 3, 1902, to authorize the Secretary of Agriculture to co-operate with the above named association for the accomplishment of this work. As a result, although the work is still incomplete, standards for the more important food products have already been fixed and established by the Secretary of Agriculture, acting for the United States.

PRINCIPLES ON WHICH THE STANDARDS ARE BASED.

The general considerations which guided the committee of the Association of Official Agricultural Chemists in preparing the standards for food products are thus stated by them:

1. The standards are expressed in the form of definitions, with or without accompanying specifications of limit in composition.
2. The main classes of food articles are defined before the subordinate classes are considered.
3. The definitions are so framed as to exclude from the articles defined substances not included in the definitions.
4. The definitions include, where possible, those qualities which make the articles described wholesome for human food.
5. A term defined in any of the several schedules has the same meaning wherever else it is used in this report.

6. The names of food products herein defined usually agree with existing American trade or manufacturing usage, but where such usage is not clearly established or where trade names confuse two or more articles for which specific designations are desirable, preference is given to one of the several trade names applied.

7. Standards are based upon data representing materials produced under American conditions and manufactured by American processes or representing such varieties of foreign articles as are chiefly imported for American use.

8. The standards fixed are such that a departure of the articles to which they apply, above the maximum or below the minimum limit prescribed, is evidence that such articles are of inferior or abnormal quality.

9. The limits fixed as standard are not necessarily the extremes authentically recorded for the article in question, because such extremes are commonly due to abnormal conditions of production and are usually accompanied by marks of inferiority or abnormality readily perceived by the producer or manufacturer.

As empowered in Section 5, Chapter 68 of the laws of 1905, the Director of the Maine Agricultural Experiment Station hereby adopts the following standards for purity of food products together with their precedent definitions as the official standards of these food products for the State of Maine. These are the standards above referred to as fixed by the Secretary of Agriculture of the United States.

I. ANIMAL PRODUCTS.

A. MEATS AND THE PRINCIPAL MEAT PRODUCTS.

a. MEATS.

1. *Meat* is any sound, dressed, and properly prepared edible part of animals in good health at the time of slaughter. The term "animals," as herein used, includes not only mammals, but fish, fowl, crustaceans, mollusks, and all other animals used as food.

2. *Fresh meat* is meat from animals recently slaughtered or preserved only by refrigeration.

3. *Salted, pickled, and smoked meats* are unmixed meats preserved by salt, sugar, vinegar, spices, or smoke, singly or in combination, whether in bulk or in packages.

b. MANUFACTURED MEATS.

1. *Manufactured meats* are meats not included in paragraphs 2 and 3, whether simple or mixed, whole or comminuted, in bulk or packages, with or without the addition of salt, sugar, vinegar, spices, smoke, oils, or rendered fat. If they bear names descriptive of composition they correspond thereto and when bearing such descriptive names, if force or flavoring meats are used, the kind and quantity thereof are made known.

d. LARD.

1. *Lard* is the rendered fresh fat from slaughtered, healthy hogs, is free from rancidity, and contains not more than one (1) per cent of substances, other than fatty acids, not fat, necessarily incorporated therewith in the process of rendering.

2. *Leaf lard* is lard rendered at moderately high temperatures from the internal fat of the abdomen of the hog, excluding that adherent to the intestines, and has an iodine number not greater than sixty (60).

3. *Neutral lard* is lard rendered at low temperatures.

B. MILK AND ITS PRODUCTS.*

II. VEGETABLE PRODUCTS.

A. GRAIN PRODUCTS.

(a) GRAINS AND MEALS.

1. *Grain* is the fully matured, clean, sound, air-dry seed of wheat, maize, rice, oats, rye, buckwheat, barley, sorghum, millet, or spelt.

2. *Meal* is the sound product made by grinding grain.

*The inspection of milk and other dairy products, and their imitations is intrusted by Chapter 39 of the Laws of 1905 to the Commissioner of Agriculture. The standard for milk is fixed by statute. Standards for other dairy products will be fixed by the Director of the Station on request from the Commissioner of Agriculture.

3. *Flour* is the fine, sound product made by bolting wheat meal and contains not more than thirteen and one-half (13.5) per cent of moisture, not less than one and twenty-five hundredths (1.25) per cent of nitrogen, not more than one (1.0) per cent of ash, and not more than fifty hundredths (0.50) per cent of fiber.

4. *Graham flour* is unbolted wheat meal.

5. "*Whole wheat flour*," "*entire wheat flour*," improperly so called, is fine wheat meal from which a part of the bran has been removed.

6. *Gluten flour* is the product made from flour by the removal of starch and contains not less than five and six-tenths (5.6) per cent of nitrogen and not more than ten (10) per cent of moisture.

7. *Maize meal*, *corn meal*, or *Indian corn meal* is meal made from sound maize grain and contains not more than fourteen (14) per cent of moisture, not less than one and twelve hundredths (1.12) per cent of nitrogen, and not more than one and six-tenths (1.6) per cent of ash.

8. *Rice* is the hulled and polished grain of *Oryza sativa*.

9. *Oatmeal* is meal made from hulled oats and contains not more than eight (8) per cent of moisture, not more than one and five-tenths (1.5) per cent of crude fiber, not less than two and twenty-four hundredths (2.24) per cent of nitrogen, and not more than two and two-tenths (2.2) per cent of ash.

10. *Rye flour* is the fine sound product made by bolting rye meal and contains not more than thirteen and one-half (13.5) per cent of moisture, not less than one and thirty-six hundredths (1.36) per cent of nitrogen, and not more than one and twenty-five hundredths (1.25) per cent of ash.

11. *Buckwheat flour* is bolted buckwheat meal and contains not more than twelve (12) per cent of moisture, not less than one and twenty-eight hundredths (1.28) per cent of nitrogen, and not more than one and seventy-five hundredths (1.75) per cent of ash.

C. SUGARS AND RELATED SUBSTANCES

a. SUGAR AND SUGAR PRODUCTS.

Sugars.

1. *Sugar* is the product chemically known as sucrose (saccharose) chiefly obtained from sugar cane, sugar beets, sorghum, maple, or palm.

2. *Granulated, loaf, cut, milled, and powdered sugars* are different forms of sugar and contain at least ninety-nine and five-tenths (99.5) per cent of sucrose.

3. *Maple sugar* is the solid product resulting from the evaporation of maple sap.

4. *Masseccuite, melada, mush sugar, and concrete* are products made by evaporating the purified juice of a sugar-producing plant, or a solution of sugar, to a solid or semi-solid consistence in which the sugar chiefly exists in a crystalline state.

Molasses and Refiners' Sirup.

1. *Molasses* is the product left after separating the sugar from masseccuite, melada, mush sugar, or concrete, and contains not more than twenty-five (25) per cent of water and not more than five (5) per cent of ash.

2. *Refiners' sirup* ("treacle") is the residual liquid product obtained in the process of refining raw sugars and contains not more than twenty-five (25) per cent of water and not more than eight (8) per cent of ash.

Sirups.

1. *Sirup* is the product made by purifying and evaporating the juice of a sugar-producing plant without removing any of the sugar and contains not more than thirty (30) per cent of water and not more than two and five-tenths (2.5) per cent of ash.

2. *Sugar-cane sirup* is sirup made by the evaporation of the juice of the sugar cane or by the solution of sugar-cane concrete.

3. *Sorghum sirup* is sirup made by the evaporation of sorghum juice or by the solution of sorghum concrete.

4. *Maple sirup* is sirup made by the evaporation of maple sap or by the solution of maple concrete.

5. *Sugar sirup* is sirup made by dissolving sugar to the consistence of a sirup.

b. GLUCOSE PRODUCTS.

1. *Starch sugar* is the solid product made by hydrolyzing starch or a starch-containing substance until the greater part of the starch is converted into dextrose. Starch sugar appears in commerce in two forms, anhydrous and hydrous. The former, crystallized without water of crystallization, contains not less than ninety-five (95) per cent of dextrose and not more than eight-tenths (0.8) per cent of ash. The latter, crystallized with water of crystallization, is of two varieties—70 sugar, also known as brewers' sugar, contains not less than seventy (70) per cent of dextrose and not more than eight-tenths (0.8) per cent of ash; 80 sugar, climax or acme sugar, contains not less than eighty (80) per cent of dextrose and not more than one and one-half (1.5) per cent of ash.

The ash of all these products consists almost entirely of chlorids and sulphates.

2. *Glucose, mixing glucose, or confectioner's glucose* is a thick, sirupy, colorless product made by incompletely hydrolyzing starch, or a starch-containing substance, and decolorizing and evaporating the product. It varies in density from forty-one (41) to forty-five (45) degrees Baumé at a temperature of one hundred (100) degrees F. (37.7° C.), and conforms in density, within these limits, to the degree Baumé it is claimed to show, and for a density of forty-one (41) degrees Baumé contains not more than twenty-one (21) per cent and for a density of forty-five (45) degrees not more than fourteen (14) per cent of water. It contains on a basis of forty-one (41) degrees Baumé not more than one (1) per cent of ash, consisting chiefly of chlorids and sulphates.

3. *Glucose sirup or corn sirup* is glucose unmixd or mixed with sirup, molasses, or refiners' sirup and contains not more than twenty-five (25) per cent of water and not more than three (3) per cent of ash.

C. CANDY.

1. *Candy* is a product made from a saccharine substance or substances with or without the addition of harmless coloring, flavoring, or filling materials and contains no terra alba, barytes, talc, chrome yellow, or other mineral substances, or poisonous colors or flavors, or other ingredients injurious to health.

D. HONEY.

1. *Honey* is the nectar and saccharine exudations of plants gathered, modified, and stored in the comb by honey bees (*Apis mellifica*). It is laevo-rotatory, contains not more than twenty-five (25) per cent of water, not more than twenty-five hundredths (0.25) per cent of ash, and not more than eight (8) per cent of sucrose.

2. *Comb honey* is honey contained in the cells of comb.

3. *Extracted honey* is honey which has been separated from the uncrushed comb by centrifugal force or gravity.

4. *Strained honey* is honey removed from the crushed comb by straining or other means.

D. CONDIMENTS (EXCEPT VINEGAR).

a. SPICES.

1. *Spices* are aromatic vegetable substances used for the seasoning of food and from which no portion of any volatile oil or other flavoring principle has been removed and which are sound and true to name.

2. *Allspice* or *pimento* is the dried fruit of *Pimenta pimenta* (L.) Karst. and contains not less than eight (8) per cent of quercitannic acid;* not more than six (6) per cent of total ash; not more than five-tenths (0.5) per cent of ash insoluble in hydrochloric acid, and not more than twenty-five (25) per cent of crude fiber.

3. *Anise* is the fruit of *Pimpinella anisum* L.

4. *Bay leaf* is the dried leaf of *Laurus nobilis* L.

5. *Capers* are the flower buds of *Capparis spinosa* L.

6. *Caraway* is the fruit of *Carum carui* L.

*Calculated from the total oxygen absorbed by the aqueous extract.

7. *Red pepper* is the red, dried ripe fruit of any species of *Capsicum*.

8. *Cayenne pepper* or *cayenne* is the dried ripe fruit of *Capsicum frutescens* L., *Capsicum baccatum* L., or some other small-fruited species of *Capsicum*, and contains not less than fifteen (15) per cent of nonvolatile ether extract; not more than six and five-tenths (6.5) per cent of total ash; not more than five-tenths (0.5) per cent of ash insoluble in hydrochloric acid; not more than one and five-tenths (1.5) per cent of starch, and not more than twenty-eight (28) per cent of crude fiber.

9. *Celery seed* is the dried fruit of *Apium graveolens* L.

10. *Cinnamon* is the dried bark of any species of the genus *Cinnamomum* from which the outer layers may or may not have been removed.

11. *True cinnamon* is the dried inner bark of *Cinnamomum zeylanicum* Breyn.

12. *Cassia* is the dried bark of various species of *Cinnamomum*, other than *Cinnamomum zeylanicum*, from which the outer layers may or may not have been removed.

13. *Cassia buds* are the dried immature fruit of species of *Cinnamomum*.

14. *Ground cinnamon* or *ground cassia* is a powder consisting of cinnamon, cassia, or cassia buds, or a mixture of these spices, and contains not more than eight (8) per cent of total ash and not more than two (2) per cent of sand.

15. *Cloves* are the dried flower buds of *Caryophyllus aromaticus* L. which contain not more than five (5) per cent of clove stems; not less than ten (10) per cent of volatile ether extract; not less than twelve (12) per cent of quercitannic acid;* not more than eight (8) per cent of total ash; not more than five-tenths (0.5) per cent of ash insoluble in hydrochloric acid, and not more than ten (10) per cent of crude fiber.

16. *Coriander* is the dried fruit of *Coriandrum sativum* L.

17. *Cumin seed* is the fruit of *Cuminum cyminum* L.

18. *Dill seed* is the fruit of *Anethum graveolens* L.

19. *Fennel* is the fruit of *Fœniculum fœniculum* (L.) Karst.

20. *Ginger* is the washed and dried or decorticated and dried rhizome of *Zingiber zingiber* (L.) Karst. and contains not less

* Calculated from the total oxygen absorbed by the aqueous extract.

than forty-two (42) per cent of starch, not more than eight (8) per cent of crude fiber, not more than eight (8) per cent of total ash, not more than one (1) per cent of lime, and not more than three (3) per cent of ash insoluble in hydrochloric acid.

21. *Limed or bleached ginger* is whole ginger coated with carbonate of lime and contains not more than ten (10) per cent of ash, not more than four (4) per cent of carbonate of lime, and conforms in other respects to the standard for ginger.

22. *Horse-radish* is the root of *Roripa armoracia* (L.) Hitchcock either by itself or ground and mixed with vinegar.

23. *Mace* is the dried arillus of *Myristica fragrans* Houttuyn and contains not less than twenty (20) nor more than thirty (30) per cent of nonvolatile ether extract, not more than three (3) per cent of total ash, not more than five-tenths (0.5) per cent of ash insoluble in hydrochloric acid, and not more than ten (10) per cent of crude fiber.

24. *Macassar* or *Papua mace* is the dried arillus of *Myristica argentea* Warb.

25. *Bombay mace* is the dried arillus of *Myristica malabarica* Lamarck.

26. *Marjoram* is the leaf, flower, and branch of *Majorana majorana* (L.) Karst.

27. *Mustard seed* is the seed of *Sinapis alba* L. (white mustard), *Brassica nigra* (L.) Koch (black mustard), or *Brassica juncea* (L.) Cosson (black or brown mustard).

28. *Ground mustard* is a powder made from mustard seed, with or without the removal of the hulls and a portion of the fixed oil, and contains not more than two and five-tenths (2.5) per cent of starch and not more than eight (8) per cent of total ash.

29. *Nutmeg* is the dried seed of *Myristica fragrans* Houttuyn deprived of its testa, with or without a thin coating of lime, and contains not less than twenty-five (25) per cent of nonvolatile ether extract, not more than five (5) per cent of total ash, not more than five-tenths (0.5) per cent of ash insoluble in hydrochloric acid, and not more than ten (10) per cent of crude fiber.

30. *Macassar, Papua, male, or long nutmeg* is the dried seed of *Myristica argentea* Warb. deprived of its testa.

31. *Paprica* is the dried ripe fruit of *Capsicum annuum* L., or some other large-fruited species of *Capsicum*.

32. *Black pepper* is the dried immature berry of *Piper nigrum* L. and contains not less than six (6) per cent of non-volatile ether extract, not less than twenty-five (25) per cent of starch, not more than seven (7) per cent of total ash, not more than two (2) per cent of ash insoluble in hydrochloric acid, and not more than fifteen (15) per cent of crude fiber. One hundred parts of the nonvolatile ether extract contain not less than three and one-quarter (3.25) parts of nitrogen. *Ground black pepper* is the product made by grinding the entire berry and contains the several parts of the berry in their normal proportions.

33. *Long pepper* is the dried fruit of *Piper longum* L.

34. *White pepper* is the dried mature berry of *Piper nigrum* L. from which the outer coating or the outer and inner coatings have been removed and contains not less than six (6) per cent of nonvolatile ether extract, not less than fifty (50) per cent of starch, not more than four (4) per cent of total ash, not more than five-tenths (0.5) per cent of ash insoluble in hydrochloric acid, and not more than five (5) per cent of crude fiber. One hundred parts of the non-volatile ether extract contain not less than four (4) parts of nitrogen.

35. *Saffron* is the dried stigma of *Crocus sativus* L.

36. *Sage* is the leaf of *Salvia officinalis* L.

37. *Savory* or *summer savory* is the leaf, blossom, and branch of *Satureja hortensis* L.

38. *Thyme* is the leaf and tip of blooming branches of *Thymus vulgaris* L.

E. BEVERAGES AND VINEGAR.

C. COCOA AND COCOA PRODUCTS.

1. *Cocoa beans* are the seeds of the cacao tree, *Theobroma cacao* L.

2. *Cocoa nibs*, or *cracked cocoa* is the roasted, broken cocoa bean freed from its shell or husk.

3. *Chocolate*, *plain* or *bitter*, or *chocolate liquor*, is the solid or plastic mass obtained by grinding cocoa nibs without the

removal of fat or other constituents except the germ, and contains not more than three (3) per cent of ash insoluble in water, three and fifty hundredths (3.50) per cent of crude fiber, and nine (9) per cent of starch, and not less than forty-five (45) per cent of cocoa fat.

4. *Sweet chocolate* and *chocolate coatings* are plain chocolate mixed with sugar (sucrose), with or without the addition of cocoa butter, spices, or other flavoring materials, and contain in the sugar- and fat-free residue no higher percentage of either ash, fiber, or starch than is found in the sugar- and fat-free residue of plain chocolate.

5. *Cocoa* or *powdered cocoa* is cocoa nibs, with or without the germ, deprived of a portion of its fat and finely pulverized, and contains percentages of ash, crude fiber, and starch corresponding to those in chocolate after correction for fat removed.

6. *Sweet* or *sweetened cocoa* is cocoa mixed with sugar (sucrose), and contains not more than sixty (60) per cent of sugar (sucrose), and in the sugar- and fat-free residue no higher percentage of either ash, crude fiber, or starch than is found in the sugar- and fat-free residue of plain chocolate.

e. VINEGAR.

1. *Vinegar*, *cider vinegar*, or *apple vinegar* is the product made by the alcoholic and subsequent acetous fermentations of the juice of apples, is lævo-rotatory, and contains not less than four (4) grams of acetic acid, not less than one and six-tenths (1.6) grams of apple solids, and not less than twenty-five hundredths (0.25) gram of apple ash in one hundred (100) cubic centimeters. The water-soluble ash from one hundred (100) cubic centimeters of the vinegar requires not less than thirty (30) cubic centimeters of decinormal acid to neutralize the acidity and contains not less than ten (10) milligrams of phosphoric acid (P_2O_5).

2. *Wine vinegar* or *grape vinegar* is the product made by the alcoholic and subsequent acetous fermentations of the juice of grapes and contains, in one hundred (100) cubic centimeters, not less than four (4) grams of acetic acid, not less than one and four-tenths (1.4) grams of grape solids, and not less than thirteen hundredths (0.13) gram of grape ash.

3. *Malt vinegar* is the product made by the alcoholic and subsequent acetous fermentations, without distillation, of an infusion of barley malt or cereals whose starch has been converted by malt, and is dextro-rotatory and contains, in one hundred (100) cubic centimeters, not less than four (4) grams of acetic acid, not less than two (2) grams of solids, and not less than two-tenths (0.2) gram of ash. The water-soluble ash from one hundred (100) cubic centimeters of the vinegar requires not less than four (4) cubic centimeters of decinormal acid to neutralize its alkalinity and contains not less than nine (9) milligrams of phosphoric acid (P_2O_5).

4. *Sugar vinegar* is the product made by the alcoholic and subsequent acetous fermentations of solutions of a sugar, sirup, molasses, or refiners' sirup, and contains, in one hundred (100) cubic centimeters, not less than four (4) grams of acetic acid.

5. *Glucose vinegar* is the product made by the alcoholic and subsequent acetous fermentations of solutions of starch sugar, glucose, or glucose sirup, is dextro-rotatory, and contains, in one hundred (100) cubic centimeters, not less than four (4) grams of acetic acid.

6. *Spirit vinegar, distilled vinegar, grain vinegar* is the product made by the acetous fermentation of dilute distilled alcohol and contains, in one hundred (100) cubic centimeters, not less than four (4) grams of acetic acid.

ANALYSIS OF FOOD PRODUCTS.

The law regulating the sale and analysis of foods apparently contemplates two things: the proper and truthful branding of all articles of food, and the exclusion from the markets of deleterious food materials. The law does not seek to prevent the sale of any article of wholesome food; but in case a food material is other than it appears to be, it "shall be plainly labeled, branded or tagged so as to show the exact character thereof."

Broadly speaking, the adulterants of food are of two types: those which do not particularly affect the nutritive value of a food; and those which either lower the nutritive value or actually add deleterious articles. The common adulterant of maple sugar is cane sugar, the sweetening quality of which is identical

with that of the maple. Molasses is often adulterated with glucose, a cheaper, and somewhat less sweet, but equally nutritious food material. Cottonseed oil is frequently sold for olive oil. The market price of such substituted commodities is below that of the article imitated. Such adulterations are frauds upon the pocket book. On the other hand, some baking powders contain alum. Sausages frequently carry borax. Ketchups usually contain questionable preservatives and coloring matters. Such adulterants are a greater or less menace to public health. Since the limited funds available for the analysis of foods makes it impossible to inspect them all, greater attention will be given to adulterations injurious to health than to those concerning the pocket book alone. Because of the expense involved it will be impracticable for the inspector to visit any considerable number of the towns of the State. Dealers and consumers are invited to send by prepaid express original and unbroken packages of food materials on sale in Maine of whose purity they are for any reason suspicious. Such samples should be accompanied by a full description of the goods, including the name and address of the dealer and of the sender, together with other known data not given on the package. As prompt free analysis will be made of these samples as circumstances will allow. In case more samples are received than can be analyzed, preference will be given to the examination of food materials the purity of which affects the public health.

